

## ABSTRACT

Sweetpotato production is the third-largest among root and tuber crops in Kenya, following Irish potato and cassava. Despite their nutritional richness—being high in vitamins, minerals, proteins, polyphenols, and beneficial micro-components—sweetpotato leaves are underutilized as a vegetable in many diets worldwide. This limits their potential to alleviate micronutrient deficiencies and enhance human health. This study aimed to evaluate the iron content of five Kenspot sweetpotato leaf varieties (Kenspot 1 - 5), developed by scientists at the Kenya Agricultural and Livestock Research Organization, and to assess how drying and cooking processes influence their iron levels. Freshly harvested leaves were collected from plots in Bomet County, arranged in a randomized complete block design, and analyzed for iron content directly as raw leaves. The remaining leaves were subjected to processing: drying and cooking, followed by iron analysis. The methodology adhered to the AOAC Official Method 2015.06, conducted at KALRO Njoro laboratories. Results indicated that fresh leaves contained between 9.2 and 13.0 mg/100g dry matter, with Kenspot 2 having the highest (13.0 mg/100g) and Kenspot 5 having the second highest (10.5 mg/100g). After cooking, iron content decreased to a range of 5.5mg/100g (Kenspot 3) to 9.9 mg/100g (Kenspot 2), with iron retention rates from 57.1% to 81.3%. Dried and cooked leaves showed further reduction, with iron levels between 7.0 and 10.5 mg/100g and retention rates from 54.1% to 61.8%. Significant differences were observed in iron contents across all varieties and processing methods. Overall, cooking and drying significantly reduce iron concentrations in the leaves. Based on these findings, to maximize iron intake, it is recommended to consume Kenspot sweetpotato leaves as cooked fresh rather than in dried form. This approach would enhance their nutritional contribution and help utilize this underused leafy vegetable more effectively for improved micronutrient nutrition.